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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,211

06/29/2005

Hadrian Nicholas Fraval

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HOFFMANN & BARON, LLP
6900 JERICHO TURNPIKE
SYOSSET, NY 11791

EXAMINER

CRANDALL, LYNSEY P

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,211	Applicant(s) FRAVAL, HADRIAN NICHOLAS	
	Examiner LYNSEY CRANDALL	Art Unit 3769	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-73 is/are pending in the application.
- 4a) Of the above claim(s) 18-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 54-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/29/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-17 and 54-73 in the reply filed on 2/26/2009 is acknowledged.
2. Claims 18-53 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/26/2009.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second chopper of claims 17 and 60 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

1. Claim 56 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. This claim does not provide any further limiting structure and only pertains to intended use.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7, 10, 12, 66, 69 and 71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 7 recites the limitation "the light guide" in line 2. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 10 recites the limitation "the light guide" in line 2. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 12 recites the limitation "the light guide" in line 4. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 66 recites the limitation "the light guide" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 69 recites the limitation "the light guide" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 71 recites the limitation "the light guide" in line 4. There is insufficient antecedent basis for this limitation in the claim.

DETAILED ACTION

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-2, 4-10 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 2001/0056237 to Cane et al.

12. [Claims 1-2] Cane teaches a light source (1, Fig 14); filter means (2 and 3, Fig 14) and control means (7, Fig 1 and Par 0197-98). The filter means include a first filter wheel (2) and a second filter wheel (3) that cover the infrared through the ultraviolet spectrum (Par 0186). The number of filters may be as high or as low as desired (Par 0187) and the specific transmitted wavelengths are regarded as intended use depending on the desired treatment.

13. [Claim 4] Cane teaches a light guide (fiber 4, Fig 14) for receiving light from the filter and conveying it to the patient (skin S, Fig. 14).

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14. [Claims 5-6] Cane teaches a CCD array (photo-receptor unit 6, Fig 14 and Par 0192) for providing an image of a region of the patient which is being treated.

15. [Claim 7] Optical fiber (5, Fig 14) is interpreted as an image fiber in the light guide.

16. [Claims 8-10 and 12-13] Cane discloses a comparator (7, Fig 14) that receives reflected light from the skin via fiber waveguide (5) and receive signals relating to the intensity of light remitted in the red, yellow and blue regions of the spectrum, and of remitted white light (Par 0197). This comparator is interpreted as both spectrum analyzer and light intensity unit. The comparator is suitably arranged to supply these results to a display monitor 9 and/or to a printer 10, and it may be arranged to pass control signals to the power supply 11 of a medical laser 12 or other source of radiation whether coherent or non-coherent.

17. Claims 54-56 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 5,046,494 to Searfoss et al.

18. [Claims 54-55] Searfoss teaches a light source (16, Figs 1-3); filter means (18, Figs 1-4) with a plurality of filter elements (19a-c, Fig 4) and a modulating component (controller 28, 32 and 36, Figs 1-3 respectively) for controlling the current conducted to the light sources. Searfoss specifically teaches varying the pulse rate (Col 4, lines 57-62). Pulsed light inherently has a period of illumination and a period of non-illumination.

19. [Claim 56] The length of the first period of illumination compared to the second period of non-illumination is regarded as intended use. Searfoss teaches a controller for controlling the light sources and is capable of this intended use.

20. [Claim 58] The controller taught by Searfoss is interpreted as a pulse width modulator circuit since it controls the pulse rate.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2001/0056237 to Cane et al. as applied to claim 1 above, and further in view of U.S. 3,782,823 to Kantorski et al.

23. Cane is discussed above, but is silent with regards to a drive means for controlling the filter wheels. Kantorski teaches a light treatment device having a filter wheel (16, Fig 1) with a disk drive motor (18, Fig 1) to bring a selected one of the filter elements into alignment with the light source (Col 2, lines 4-16). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to include the drive motor taught by Kantorski in the device taught by Cane in order to control the positioning of the filter wheel.

24. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2001/0056237 to Cane et al. as applied to claim 2 above, and further in view of U.S. 4,176,916 to Carpenter.

25. Cane is discussed above, but is silent with regards to a tilt mechanism for tilting the filter wheels. Carpenter teaches a mechanism for tilting a filter wheel (abstract). It

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would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to include the tilting mechanism taught by Carpenter in the device taught by Cane in order to achieve variation in the light wavelength transmitted by each filter taught by Carpenter (abstract).

26. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2001/0056237 to Cane et al. as applied to claim 1 above, and further in view of U.S. 6,554,825 to Murray et al.

27. Cane is discussed above, but is silent with regards to a modulating component. Murray teaches a light source (arc lamp 202, Fig 3); filter means, a birefringent filter having a rotational orientation controlled by an associated stepper motor (Col 4, lines 53-56); and a modulating component (control processor 302, Fig 3).

28. Murray teaches a control processor (302) with pulse duration control (312) and repetition rate control (314). This is interpreted as a pulse width modulator circuit. As seen in Fig. 4, Murray discloses a modulator component for providing a first period (402) in which pulsed (404) illumination is applied and second period (time between the 402 pulses) when illumination is prevented from being applied to the patient.

29. Murray discloses that the output signal delivered to power supply 306 modulates the energy supplied to arc lamp 202, which in turn controls the average power and pulse durations of the input and output beams. The output signal delivered to Q-switch 118 controls the repetition rate of the component (Col 5, lines 42-47). The use of modulating is a control technique transportable from lasers to generic light therapy. It would have been obvious to a person having ordinary skill in the art at the time of

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applicant's invention to include the modulating component as taught by Murray in the device taught by Cane in order to provide a series of micropulses as seen in Fig. 4 of Murray.

30. Claims 57, 59-60 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,046,494 to Searfoss et al. as applied to claim 54 above, and further in view of U.S. 6,554,825 to Murray et al.

31. [Claim 57] Searfoss is discussed above, but is silent with regards to a modulating component that produces micro-pulses. As seen in Fig. 4, Murray discloses a modulator component for providing a first period (402) in which pulsed (404) illumination is applied and second period (time between the 402 pulses) when illumination is prevented from being applied to the patient. The use of modulating is a control technique transportable from lasers to generic light therapy. It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to include the modulating component as taught by Murray in the device taught by Searfoss in order to provide a series of micropulses as seen in Fig. 4 of Murray.

32. [Claims 59-60] Murray discloses that the output signal delivered to power supply 306 modulates the energy supplied to arc lamp 202, which in turn controls the average power and pulse durations of the input and output beams. The output signal delivered to Q-switch 118 controls the repetition rate of the component (Col 5, lines 42-47). The Q-switch is described as preferably of the acousto-optic type, but may alternatively comprise a mechanical device such as a rotating prism or aperture, or an electro-optical device, which is interpreted as a second chopper (Col 4, lines 11-14). Since, the term

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chopper is not defined by applicant, examiner interprets any control mechanism that provides pulsed light to read on the chopping element and therefore Murray discloses a first and second chopper.

33. [Claim 73] Murray teaches a Control system 300 includes a control processor 302 which receives input from a variety of sources including user controls 304, power detector 156 and wavelength detector 152. User controls 304 are provided to allow the user to control and adjust various aspects of the operation of laser system 100 so as to achieve optimal results for a given therapeutic procedure. User controls 304 may include, for example, a power or fluence control 310, pulse duration control 312, repetition rate control 314, and wavelength control 316.

34. Claims 61-69 and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,046,494 to Searfoss et al. as applied to claim 54 above, and further in view of U.S. 2001/0056237 to Cane et al.

35. [Claims 61, 63-69 and 71-72] Searfoss is discussed above, but is silent with regards to the filter wheels, spectrum analyzer and intensity measuring unit. Cane teaches a light source (1, Fig 14); filter means (2 and 3, Fig 14) and control means (7, Fig 1 and Par 0197-98). The filter means include a first filter wheel (2) and a second filter wheel (3) that cover the infrared through the ultraviolet spectrum (Par 0186). The number of filters may be as high or as low as desired (Par 0187) and the specific transmitted wavelengths are regarded as intended use depending on the desired treatment. Cane teaches a light guide (fiber 4, Fig 14) for receiving light from the filter and conveying it to the patient (skin S, Fig. 14). Cane teaches a CCD array (photo-

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receptor unit 6, Fig 14 and Par 0192) for providing an image of a region of the patient which is being treated. Optical fiber (5, Fig 14) is interpreted as an image fiber in the light guide.

36. Cane discloses a comparator (7, Fig 14) that receives reflected light from the skin via fiber waveguide (5) and receive signals relating to the intensity of light remitted in the red, yellow and blue regions of the spectrum, and of remitted white light (Par 0197). This comparator is interpreted as both spectrum analyzer and light intensity unit. The comparator is suitably arranged to supply these results to a display monitor 9 and/or to a printer 10, and it may be arranged to pass control signals to the power supply 11 of a medical laser 12 or other source of radiation whether coherent or non-coherent. It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to include the filter wheels and comparator taught by Cane in the device taught by Searfoss in order to control the device and provide specific wavelengths for treatment.

37. [Claim 62] Searfoss teaches servo motor (20, Fig 4) to rotate the filter wheel.

38. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,046,494 to Searfoss et al. and U.S. 2001/0056237 to Cane et al. as applied to claim 61 above, and further in view of U.S. 4,176,916 to Carpenter.

39. Murray and Cane are discussed above, but are silent with regards to a tilt mechanism for tilting the filter wheels. Carpenter teaches a mechanism for tilting a filter wheel (abstract). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to include the tilting mechanism taught by Carpenter

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in the device taught by Searfoss and Cane in order to achieve variation in the light wavelength transmitted by each filter taught by Carpenter (abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LYNSEY CRANDALL whose telephone number is (571)270-7035. The examiner can normally be reached on Monday to Thursday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hank Johnson can be reached on (571)272-4768. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LYNSEY CRANDALL/
Examiner, Art Unit 3769

/Henry M. Johnson, III/
Supervisory Patent Examiner, Art
Unit 3769

4/27/2009